

The Role and Impact of ICT in Improving the Quality of Education in Reference to NEP 2020

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Abstract: *ICTs are making drastic changes in society. They are influencing all fields of life. Similarly, there is no doubt that ICT brings a enormous change in the field of education also. It makes teaching-learning process more effective and interesting. To know the impact of ICT in education we need to know two basic terms- ICT and education. The ICT is an umbrella that includes any communication device or application, encompassing, radio, television, cellular phones, computer, and network hardware and software, satellite system and so on, as well as the various services and applications associated with them, such as video conferencing and distance learning. Such technologies are used for educational purposes, namely to help and improve the learning of student and develop learning environments. ICT can be considered as a sub field of educational technology. The paper discusses the role and effect of ICTs, and how they can promote time ahead growth and development. In educational system, the inputs are teachers, students, classroom materials, equipment of teaching, methods of teaching and the outputs are quantity as well as quality of student learning result. The proper unification of ICT with teaching/ learning environment increases the chance of gaining education along with increased productivity. Information communication technologies are influencing all fields of life including education. They are promoting positive changes in working style, handling and exchanging of information, teaching- learning approaches . One area in which the impacts of ICT is significant, is education. ICTs are making major changes in the teaching approaches and the ways students are learning. ICT-based learning environment facilitates active, collaborative, creative, integrative, and evaluative learning as an advantage over the traditional method. In addition, the major advantages of ICTs use in education systems of developing countries focus on training teachers in new skills and introducing innovative pedagogies into the classrooms, investing on ICT infrastructure for schools and creating networks among educational institutes, improving overall standard of education by reducing the gap in quality of education between schools in urban and rural areas, initiation of smart school with objectives to foster self-paced, self-assessed, and self-directed learning through the applications of ICTs, and developing ICT policy for education and training.*

Keywords: Communication, Technology, Collaborative, Evaluative Learning, Innovative Pedagogies.

I. INTRODUCTION

ICT is a scientific, technological and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters (UNESCO, 2002). Information and Communication Technology (ICT) is increasingly becoming essential part of the education system. ICT has completely changed the style of functioning of the educational system .

The gradual positive changes in using computers changes from learning about computers, to learning computers, and finally to learning with computers (Volman, 2005). A research review by Kozma (2005) suggests three significant concerns of consideration regarding ICTs impact on education. The promise founded itself on the launching of WoredaNet, an e-government communication and the ICT strategy, which are the major enablers for the fast development of ICT use in the country (Hare, 2007).

Many teachers don't have the necessary IT skills and feel uncomfortable, nor do they have the specific instructions needed to be able to use the new resources in the classroom (Carnoy, 2004). Therefore, by this paper it is attempted to explore the role and effect of ICTs, and how they can promote future growth and development.



1.1 Transformation in Education

The swift spread of ICT applications which have brought drastic technological, social and economic transformations. These changes have caused educational institutions, administrators, teachers to rethink their roles, teaching and vision for the future. The sustainability of a nation in the era of knowledge and its economy depends on the effective educational system.

It is considered as the comparative analysis of the inputs and outputs. In Watson's (2001) description, ICTs have revolutionized the way people work today and are now transforming education systems. In educational system, the inputs are teachers, students,

classroom materials, equipment of teaching, methods of teaching and the outputs are quantity as well as quality of student learning. The proper integration of ICT with teaching/ learning environment increases the chance of gaining education along with increased productivity.

According to NEP 2020 ICT provides various chances to learners and make teachers aware of their new roles & responsibilities in educational set up. The growing use of ICT will change many of the strategies employed by both teachers and students in the learning process. The role of ICT in the educational administration is recurring and unavoidable.

1.2 ICT in the Present Situation

The present generation is of technology, and the most important among technology is information and communication technology (ICT). It is a force, and it plays a n important and vital role in all aspects of human life. It has integrated the world and altered the entire global scenario of economic, social, political, and education. Global overall growth and development depend primarily on a skilled workforce which can be achieved through quality education. Tinio (2002), states the potentials of ICTs in increasing access and improving relevance and quality of education in developing countries.

ICT is an educational tool but has been primarily used by economic institutions. The culture and procedures in all modes in activities within business, society, governance and education have been profoundly altered. It slowly transformed education from conventional to high-tech and impacted method of teaching, learning methods, scientific study, and knowledge access.

1.3 Education of Information Communication Technology (ICT) Function

Information and Communication Technology (ICT) is an amended term for IT. It is modern and interactive and provides telecommunications access to information. It has provided society with a vast assembling of communication capabilities over the past few decades and has turned society into a global village. It highlights the role of smart building management system through unified communications and the integration of telecommunications, computers, internet, software, middleware, storage, wireless network, telephone, instant messaging, audio, video conferencing, social networking (Facebook), voice over IP (VoIP) and other media.

It consists processing, extracting, editing, sending or receiving digital data. ICT handles knowledge effectively and efficiently through a variety of technical tools and services and quietly contributes to societies overall growth and development. Globally, ICT is concede as a catalyst for change, and it has the power to influence every aspect of society.

It changed workplace, working conditions, business, entertainment, handling information, exchanging information, education, teaching methods, learning approaches, scientific research and in accessing the information.

ICT in teaching and learning :

In Education, ICT means teaching and learning only through ICT. This has grown into an important part of the education system. This is an main part of the education system. It has slowly transformed scholarly society into knowledge and information society which, through exploring knowledge, has transformed the economy into a knowledge economy and assisted nations in creating wealth.

This is a new and holistic approach to technology, which has a notable influence on the education system. It has created the qualitative changes and increased productivity and changed the overall style and functioning of the educational system and its governance. It has contributed, contributed to, and will make an essential contribution to educational



advancement.

It is also a ubiquitous fact that it cannot replace teachers as they are a main and core part of quality teaching, and technology cannot succeed without them. The only thing which can be changed, modified and upgraded is technology, way, method and mode of teaching. These innovative changes due to ICT forced all the educational participants to think futuristically and educational institutions, administration and teachers must adjudicate their roles, approach and vision accordingly.

1.4 Creative and Innovative Learning

In this technological era, the industry requires a workforce with techno-managerial skills. To meet the aspiration and to cater to the demand knowledge economy requires educational institutions to produce a graduate who has prerequisite IT and other competitive skills. Educational institutions have to convert their input students to techno-oriented output. This is possible only with the adoption and integration of ICT with teaching and learning. Researchers, academicians and industry professionals have proved that ICT provides opportunities to all educational participants to learn and become excellent.

Over the world, it is accepted by the educational planners that increased exposure of students to educational ICT through curriculum integration has cast a significant and highly productive impact on their achievement. Its exposure improved their knowledge, comprehension, practical skills, presentation skills and innovative capabilities to a great extent. It empowered and enhanced the ability, adaptability, knowledge and surviving skills of students and teachers. Its instructional use improved the progress and development of faculty and students alike.

It is helping the nations to enhance the educational system beyond classrooms and reaching out to all level of society in common. It is playing an outstanding role in formulating, improvising and executing policies in the social, economic, political and educational sector and widening the range of opportunities for students, teachers, industry and poor.

By using educational ICT tools such as video conferencing, online chat, collective social media sites, educators are integrating, coordinating, and collaborating rural and urban learners with experts and peers the teaching learning process become more relevant and authentic. ICT provided a platform to the academic participants and encouraged them to invest in it personally and developed their teacher leadership plans.

ICT converted traditional education society into a knowledge economy and enhanced the skills of educators and learners. The use of net has enabled the sharing and easier accessibility of books and scientific books which has increased student knowledge and learning.

1.5 Blended Learning in the Future

Traditional way of learning is based on Tran missive modes. Use of ICT in education also affects the way students learning. The emergence of ICTs as a learning technology unknowingly insists to think on alternative theories for learning. The traditional teaching has focused on teachers planning and leading students through a series of in structural sequences to achieve desired result.

This way of teaching follows the planned transmission of knowledge though some interaction with the content as a means to consolidate the knowledge acquisition. It depends on the process of personal understanding. In this dominion learning is viewed as the construction of meaning rather than memorization of facts. Use of ICTs provide many opportunities through their provision and support for resource based, student centred learning. It acts to support various outlook of knowledge construction and as more and more spotted. Use of ICTs in their learning process, the more noticeable impact of this will become.

1.6 Futurism

In the semblance of technology, apps and the internet are meant to rule the world in all walks of life. In the educational sector, applications will become the transversal with its rapid development. In future apps as inclusion among teaching tools will give desirable change in a facilitators professionalism. Through this, one can reveal in the application of mobile phones out of classroom environment, penetration of mobile phones in classroom ambience will become pervasive part in a future scenario. Unpredictable days such as flood, Corona- COVID 19 Lockdown, quarantine and any other calamity leaves profoundly affect the teaching continuity where educational apps will support in most probable indispensable ways.

II. CONCLUSION

ICT are influencing all aspects of life including education. They are promoting drastic changes in working conditions, handling and exchanging of information, teaching-learning approaches and so on. One area in which the impacts of ICT is relevant and significance, is education. ICTs are making great differences in the teaching approaches and the ways of student' learning. ICT-enabled learning environment facilitates active, collaborative, creative, integrative, and evaluative learning as a great lead over the traditional method.

In addition, the major advantages of ICTs use in education systems of developing countries focus on training teachers in new skills and introducing innovative pedagogies into the classrooms, investing on ICT infrastructure for schools and creating networks among educational institutes, improving overall standard of education by reducing the gap in quality of education between schools in urban and rural areas, initiation of smart school with objectives to foster self-paced, self-assessed, and self-directed learning through the applications of ICTs, and developing ICT policy for education and training.

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